



Installation of counter weight on new tower crane



Iron workers putting final touches on cable compactor



The majesty of a bridge under construction



Nighttime wire spinning operations at the Tacoma tower



### Toll Testing Underway

In late January, the first of three major system tests occurred on the future electronic and manual toll collection system to be used on the new Tacoma Narrows Bridge. TransCore, the company hired by WSDOT to design, operate and maintain toll collections, conducted tests at their San Diego facility for WSDOT toll and management staff. The tests were done under test traffic conditions at a facility built to mimic the eastbound SR 16 at the toll plaza. Testing included monitoring the performance of an exhaustive list of equipment that WSDOT will use for open-road tolling (electronic toll collection) and toll-plaza tolling (manual toll collection). As part of the testing process, TransCore subjected the tolling equipment to various types of vehicles (i.e. motorcycles, trucks, cars, etc.) in both the open and toll plaza lanes. They also varied driving configurations to gauge equipment performance and electronic communications.

January's test was only one of several tests that will be conducted on the equipment. More tests will take place once the toll system is installed on site, and again once toll revenue collection begins.

### Public Outreach

- Gave all-day bridge presentations to 4th and 5th grade students at Lawton Elementary School.
- Presented project to, among others, the Eatonville Lions Club, Narrows Glen Retirement Center, and a continuing education class for Pierce County.



TransCore's tolling test facility in San Diego, CA

### Toll Operations

#### January

- Signed Toll Systems Operations Agreement
- Posted Toll Survey on website
- Began factory acceptance testing at TransCore's facility in San Diego, CA
- Installed equipment in the open road tolling lanes for identifying vehicles

#### February

- Continue factory acceptance testing in San Diego, CA
- Issue Notice to Proceed for Toll Operations to TransCore
- Conduct WAC rule administrative filing for tolling
- Continue installation of hardware in the lanes and Administration Building.

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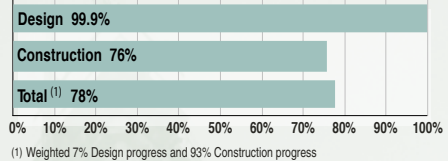
Filiz Satir, Community Outreach (253) 534-4670  
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For more information about the bridge project, visit the TNB web site:

[www.tacomanarrowsbridge.com](http://www.tacomanarrowsbridge.com)



### Progress to Date (% Complete)



### New Bridge Statistics:

**Bridge Length:** 5,400 ft. *(overall)*

**Main Span:** 2,800 ft. *(tower to tower)*  
69 pairs of suspender hangers per side

**Side Span, East:** 1,200 ft.  
29 pairs of suspender hangers per side

**Side Span, West:** 1,400 ft.  
34 pairs of suspender hangers per side

#### Suspended Roadway:

*(deck panels, barriers, utilities)*

- 53 million lbs.
- 46 deck sections
- 120-ft. by 78-ft. is size of average section

#### Towers:

- 510 ft. tall
- 8,500 cubic yds. concrete *(per tower)*
- 2.9 million lbs. of reinforcing steel *(both)*

#### Caissons (tower foundations, each):

- 85,000 tons *(total weight)*
- 6 million lbs. of reinforcing steel
- 40,500 cubic yds. concrete *(Tacoma)*
- 37,000 cubic yds. concrete *(Gig Harbor)*

#### Anchorage (each):

- 81 million lbs. *(total)*
- 20,000 cubic yds. concrete
- 1 million lbs. of reinforcing steel

#### Cable Diameter (each):

- 20.5 inches
- Cable contains 19 strands of 464 wires
- Total steel wires per cable is 8,816
- Each steel wire is the diameter of a pencil

#### Structural Steel, Superstructure:

*(Parts of the bridge above water)*

35.5 million lbs.

#### Structural Steel, Suspension System:

*(Cable wire and saddles atop towers)*

12 million lbs.

**New Parallel Bridge Completed:** Early 2007

**1950 Bridge (Retrofit) Completed:** Early 2008

# Tacoma Narrows Bridge Project

## Monthly Progress Report

January 2006



Nighttime spinning on the south catwalk

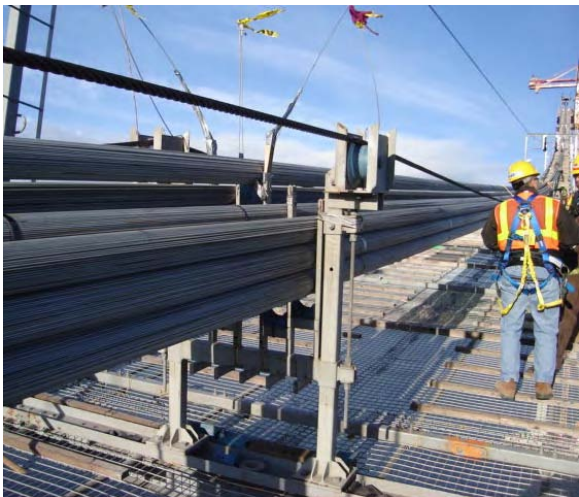


Worker surveys the completion of spinning of the south cable

## Spinning Complete on South Cable

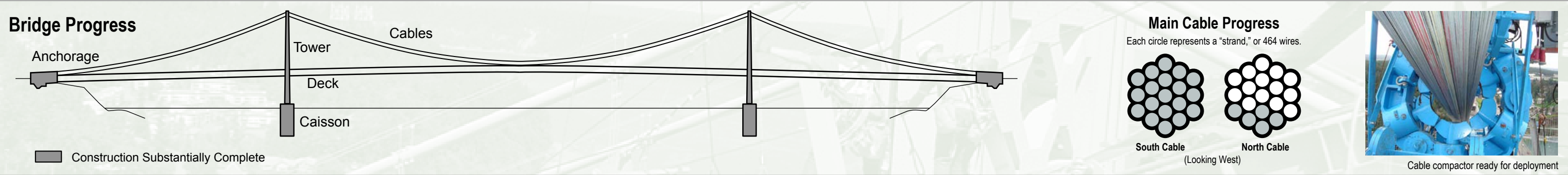
**ON** January 24, another noteworthy piece of the new Tacoma Narrows Bridge was completed. Crews finished spinning the south suspension cable with over 9,500 miles of individual 0.196"-diameter wires. As the cable was spun, the wires were precisely placed into 19 strands. In the photo below, the bundles of strands are clearly seen. Crews will now move onto the next phase of work: compacting and banding the 19 strands together to create a 20.5"-diameter main suspension cable.

Design-builder Tacoma Narrows Constructors (TNC) expected to have both the north and south suspension cables spun by January 2006. However, in November 2005, crews found unused suspension cable wire with damaged galvanized coating. Together, WSDOT and TNC implemented a comprehensive inspection, cleaning and testing program on that wire to ensure that only coils meeting WSDOT specifications were used on the bridge. Concurrently, TNC ordered more wire from



companies in China, Korea and the United Kingdom to replace the corroded wire. Replacement wire is expected to be on-site in March, when crews will resume spinning the north suspension cable. As a result of reordering wire, the first bridge deck section will now be lifted into place in mid-June. WSDOT remains confident that TNC will complete the bridge on time.





## Bridge Progress

The spinning of the south cable has been completed. TNC and WSDOT tested all wire coils showing signs of corrosion. The coils which passed the specified test, were spun on the south cable. The coils that failed the specified test were rejected and removed from the site. Cable spinning is not expected to resume on the north cable until the new bridge wire has arrived on site in March.

TNC has removed the spinning wheel and other cable spinning hardware from the south cable. TNC has completed the stairs and ladders in the Gig Harbor tower and has placed the new tower crane on top of the upper strut at the Tacoma tower.

Bridge activities scheduled for February include:

- Compact the south main cable
- Begin placement of cable bands and center ties on the south cable
- Begin ladder and stair access in the Tacoma tower
- Remove and replace the Gig Harbor tower crane

## Milestone Outlook

Milestone	Contract	WSDOT Forecast	Months Ahead
Lift first bridge deck unit	07 May 06	16 Jun 06	-1.3
Complete superstructure joining of deck sections	03 Dec 06	30 Nov 06	0.1
Complete new bridge and open to traffic	02 Apr 07	02 Apr 07	0.0
Complete existing bridge modifications	26 Feb 08	26 Feb 08	0.0

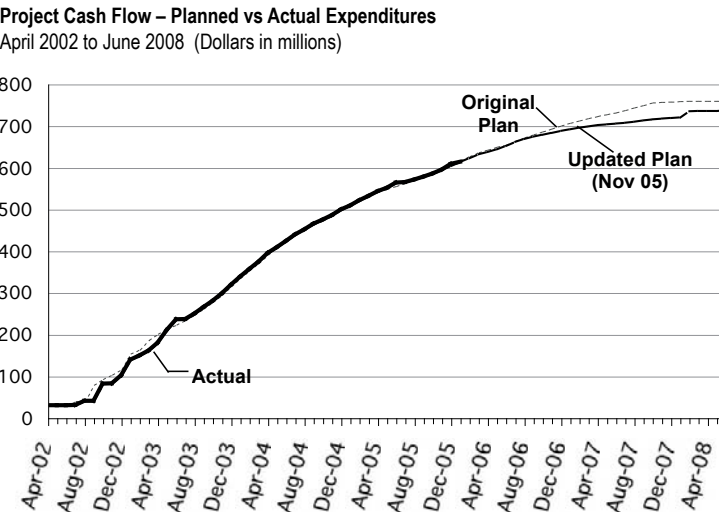
## Roadway/Roadside Progress

Roadway activities for January included completion of much of the enhanced landscaping for the season. The last of this work is ongoing at stormwater Pond C on the Gig Harbor side. Seismic retrofit work on the existing bridge is progressing steadily, both on the bridge towers and in the east anchorage. At the toll plaza, TransCore worked on the toll collection system installation, focusing on the manual toll lanes. By month's end about half of the hardware for one manual lane was in place.

Upcoming activities for February include preparations for the upcoming paving season, cleaning up the paving joints, and preparing mix designs for asphalt paving. Seismic retrofit work will continue on the existing bridge. TransCore work will continue on-site for the first manual lane hardware, with testing for that lane scheduled for the third week of the month.

## Financial Status

Project Cost Summary (in Millions)	Budgeted	Expended
Design-Build Contract	\$615.0	\$537.8
Toll System Contract	9.2	5.8
WSDOT Oversight	41.0	18.8
Contingencies Committed	13.0	11.3
Contingencies Remaining	41.7	
Phase I Dev. Cost (UIW)	40.5	39.8
Total	\$760.4	\$613.5
Total Expended/Total Cost	80.7%	



## WSDOT Construction Management



## Environmental Performance

The Tacoma Narrows Bridge Project saw near record rainfall for the months of December and January. The nearby Tacoma Narrows Airport measured 12.29 inches of rainfall in January. Despite the heavy rains, the project's erosion control preparedness withstood the near record breaking daily rainfall, until January 30th when a one-time stormwater discharge from Pond B on the Tacoma side exceeded the allowable permitted effluent limit.

Also in January, WSDOT was finalizing the conclusions and findings for an environmental assessment conducted in December. The assessment compares the project's environmental management system against the international standard for such systems.



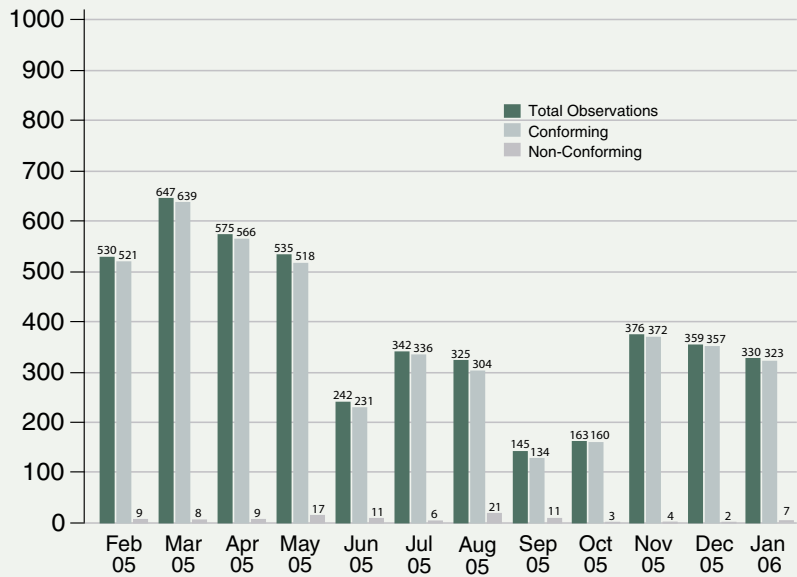
Stormwater Pond C



Stormwater Pond D

## Quality Performance

During January, WSDOT staff completed the following audits:



WSDOT employs a Compliance Audit System to ensure that work on the project conforms to contract requirements. Compliance audits are conducted regularly in two areas: construction activities occurring in the field, and management policies and systems designed to ensure a quality product.

Compliance Audit System findings for the month of January are as follows;

- 26 individual audits of design/builder work activities
- 330 contractual requirements observed and verified for compliance
- 7 non-conformance findings
- 25 total outstanding non-conformance findings

The 25 outstanding non-conformances are within normal expectations for a project of this size. WSDOT continues to actively resolve the non-conformance issues with the design-builder. The overall audit findings continue to indicate the construction work is generally complying with contract requirements.

## Safety Performance

2,102,770 hours worked with one lost time accident.

January–06	Hours Worked	Recordable Cases	LWD Cases	Lost Workdays	Restricted Cases	Restricted Days	Fatalities
TNC	31,864	0	0	0	0	0	0
WSDOT	5,497	0	0	0	0	0	0
Total	37,361	0	0	0	0	0	0
Project to Date							
TNC	1,881,979	21	1	22	5	190	0
WSDOT	220,791	1	0	0	0	0	0
Total	2,102,770	22	1	22	5	190	0

There were no recordable accidents in January.